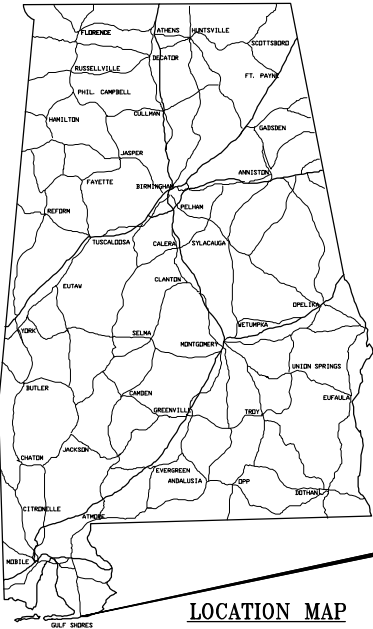


# ALABAMA HIGHWAY 59 ADAPTIVE SIGNAL SYSTEM

## CITY OF GULF SHORES

### BALDWIN COUNTY, ALABAMA

PLANS PREPARED FOR:

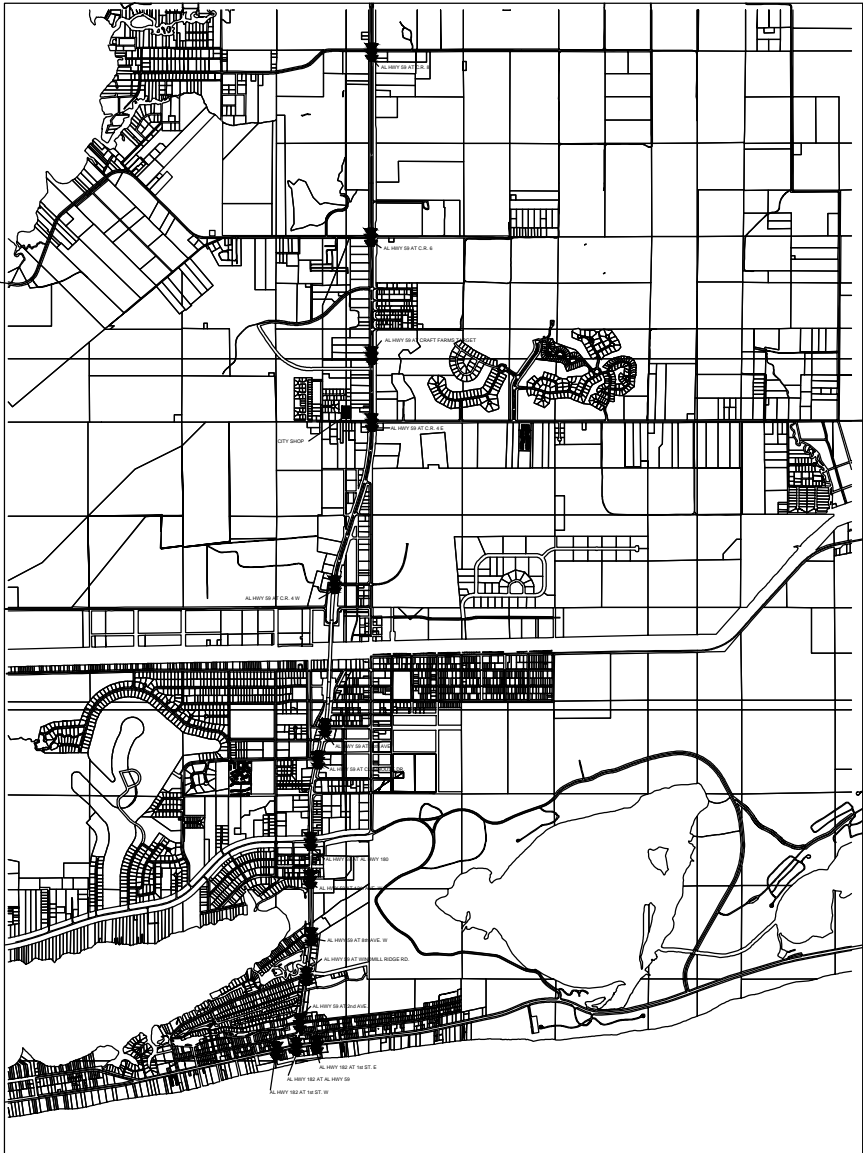


Project Location

LOCATION MAP

#### SHEET INDEX

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PROJECT LOCATION MAP  
N.T.S.



**SKIPPER**  
CONSULTING INC  
3644 Vann Road, Suite 100  
Birmingham, Alabama 35235  
205.655.8855 skipperinc.com

AL 59 at AL 182  
AL 59 Adaptive System  
Gulf Shores, Alabama

# Alabama Hwy 59 Adaptive Signal System

## Project Notes

### ELECTRICAL

1. ALL WIRING IS ASSUMED TO BE RUN IN EXISTING CONDUIT. IN THE EVENT THAT SPACE IS NOT AVAILABLE IN EXISTING CONDUIT THE CONTRACTOR SHALL RUN ADDITIONAL CONDUIT TO MEET THE WIRING NEEDS OF THE PROJECT. THIS WILL BE PAID AS PART OF A CHANGE ORDER.
2. THE CONTRACTOR/INSTALLER SHALL BE RESPONSIBLE TO CONTACT EACH OF THE UTILITY OWNERS AND MAKE THE NECESSARY ARRANGEMENTS TO HAVE EACH UTILITY MARKED IN THE FIELD BY THE OWNERS BEFORE EXCAVATION. THE CONTRACTOR/INSTALLER SHALL BE RESPONSIBLE TO PROTECT THE TRAVELING PUBLIC AND EACH UTILITY DURING CONSTRUCTION. THE CONTRACTOR/INSTALLER SHALL BE RESPONSIBLE FOR ANY REPAIRING OF DAMAGES TO THE UTILITIES TO THE SATISFACTION OF THE UTILITY COMPANY. THE CONTRACTOR/INSTALLER SHALL BEAR ALL COSTS TO REPAIR ANY AND ALL DAMAGES TO THE UTILITIES.
3. ALL CONDUIT CONNECTIONS SHALL BE SEALED WITH A WEATHER-PROOF SEALING COMPOUND. ALL CABLE AND WIRE ENTRANCES SHALL BE SEALED AFTER INSTALLATION.
4. TRAFFIC SIGNAL MARKING TAPE SHALL BE BURIED OVER ALL CONDUIT AND CONDUCTORS. THE TAPE SHALL BE FOUR (4) INCH POLYETHYLENE, RED IN COLOR WITH A BLACK LEGEND.

### WORK AREA

5. THE INSTALLER SHALL PROTECT THE EXISTING CURB AND OTHER IMPROVEMENTS FROM DAMAGE DURING THE INSTALLATION OF SIGNAL EQUIPMENT AND IS REQUIRED TO REPLACE ANY IMPROVEMENTS THAT ARE DAMAGED.
6. THE CONTRACTOR/INSTALLER SHALL PROVIDE ALL NECESSARY TEMPORARY TRAFFIC CONTROL AS NEEDED BASED ON THE WORK BEING PERFORMED. ALL CONSTRUCTION WARNING SIGNS, BARRICADES, DRUMS AND/OR OTHER TRAFFIC HANDLING DEVICES SHOULD BE IMPLEMENTED PER PART VI OF THE MUTCD (CURRENT EDITION).
7. THE INSTALLER SHALL BE REQUIRED TO ESTABLISH A SATISFACTORY GROWTH OF GRASS ON ALL AREAS DISTURBED IN PLACING THE SIGNALS OR IN HIS OPERATIONS.
8. IN CONJUNCTION WITH TRAFFIC SIGNAL INSTALLATION, REMOVAL AND SATISFACTORY DISPOSAL OF ANY MISCELLANEOUS ITEMS SUCH AS PAVEMENT, EXCAVATED MATERIALS, CURB AND GUTTER, CONCRETE, ETC. FROM THE JOB SITE SHALL BE PERFORMED BY THE INSTALLER.

### EQUIPMENT

9. THE INSTALLER SHALL FURNISH ALL MISCELLANEOUS HARDWARE AND EQUIPMENT FOR FURNISHING AND INSTALLING TRAFFIC CONTROL UNIT OR SYSTEM, SUCH AS BOLTS, NUTS, WASHERS, STRAND VISE, STEEL BARS, ETC.
10. TRAFFIC SIGNAL EQUIPMENT USED ON THIS PROJECT SHALL BE NEW, UNDAMAGED, AND FREE OF DEFECT.
11. THE CONTRACTOR SHALL PROVIDE THE DESIGN ENGINEER WITH A COPY OF THE EQUIPMENT

SUBMITTAL PACKAGE FOR REVIEW FOR COMPLIANCE WITH THE SIGNAL PLANS. IT IS THEN THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE THE EQUIPMENT SUBMITTAL PACKAGE TO THE CITY OF GULF SHORES. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO OBTAIN EQUIPMENT SUBMITTAL APPROVAL FROM THE CITY OF GULF SHORES. THE CONTRACTOR SHALL PROVIDE THE EQUIPMENT SUBMITTAL PACKAGE IN A TIMELY MANNER SO AS NOT TO ADVERSELY IMPACT THE SCHEDULE FOR INSTALLATION OF THE SIGNAL.

12. RADAR DETECTION UNITS SHALL HAVE THE ABILITY TO DETECT SEPARATION IN SPEED, RANGE, AND ANGLE OF VEHICLES AT ALL DETECTION ZONES. IT IS THE CONTRACTOR'S RESPONSABILITY TO DETERMINE IF ADDITIONAL UNITS ARE NECESSARY TO ACHEIVE THIS LEVEL OF DETECTION FOR BOTH STOPLINE AND ADVANCED ZONES
13. HD PTZ CAMERAS SHOULD BE CAPABLE OF A 30X OPTICAL ZOOM OR BETTER. THEY SHALL HAVE AN IMAGE RESOLUTION OF 1920 X 1080 WITH 30 FRAMES PER SECOND.

### MISCELLANEOUS

14. PRIOR TO BEGINNING CONSTRUCTION, THE INSTALLER SHALL CONTACT AND MEET WITH THE CITY OF GULF SHORES. THE PURPOSE OF THESE DISCUSSIONS AND/OR MEETINGS WILL BE TO COORDINATE LOCATION OF ALL UNDERGROUND AND OVERHEAD UTILITIES AND SET INSPECTION SCHEDULES FOR CONSTRUCTION.
15. THE INSTALLER SHALL PROVIDE A SET OF AS-BUILT PLANS TO THE CITY OF GULF SHORES UPON COMPLETION OF THE PROJECT.
16. FINAL INSPECTION SHALL BE CONDUCTED BY THE CITY OF GULF SHORES. IT IS THE RESPONSIBILITY OF THE INSTALLER TO GAIN APPROVAL OF THE TRAFFIC SIGNAL CONSTRUCTION PRIOR TO THE TRAFFIC SIGNAL BEING PUT INTO OPERATION. THE CITY OF GULF SHORES WILL ACCEPT MAINTENANCE OF THE TRAFFIC SIGNAL ONLY AFTER THE INSTALLER HAS ADDRESSED ALL INSPECTION ITEMS TO THE SATISFACTION OF THE CITY OF GULF SHORES.
17. THE CONTRACTOR IS REQUIRED TO HAVE AN IMSA CERTIFIED LEVEL II SIGNAL TECHNICIAN ON SITE AT ALL TIMES DURING CONSTRUCTION ACTIVITY.
18. THE TRAFFIC SIGNAL INSTALLATION, CONTROLLER, AND RELATED EQUIPMENT SHALL BE MAINTAINED IN OPERATION BY THE CONTRACTOR FOR A PERIOD OF THIRTY (30) DAYS WITHOUT EQUIPMENT FAILURE BEFORE THE CITY OF GULF SHORES WILL ACCEPT MAINTENANCE OF THE TRAFFIC SIGNAL. ALL EQUIPMENT FAILURES SHALL BE CORRECTED BY THE CONTRACTOR DURING THIS THIRTY (30) DAY PERIOD. IN THE EVENT OF AN EQUIPMENT FAILURE DURING THE THIRTY (30) DAY BURN-IN PERIOD, THE THIRTY (30) DAY BURN-IN PERIOD SHALL BE RESTARTED ONCE THE FAILURE HAS BEEN CORRECTED BY THE CONTRACTOR.

PRELIMINARY  
NOT FOR CONSTRUCTION,  
RECORDING OR IMPLEMENTATION



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CONSULTING INC

Project Notes  
AL 59 at AL 182  
AL 59 Adaptive System  
Gulf Shores, Alabama

# Alabama Hwy 59 Adaptive Signal System

## Project Specifications

### 1.0 GENERAL SCOPE OF WORK

The following is the general scope of work to be provided by the integrator for this project:

- Install Radar detection at all intersections to meet the adaptive signal system specifications
- Remove any equipment which will no longer be used
- Install and set up CENTRACS Adaptive System module as required in the specifications on the existing CENTRACS software.
- Install and set up CENTRACS Advanced CCTV module as required in the specifications on the existing CENTRACS software
- Modify existing video detection to provide system sensors at the intersections of State Route 59 at Clubhouse Drive, 12th Avenue, SR 180, 20th Ave and CR 8
- Provide and install HD PTZ cameras at ten (10) existing signalized locations specified in the plans.
- Perform services as requested by the City of Gulf Shores (such as configuring existing City-owned computer work stations for access to the CENTRACS adaptive system and video surveillance cameras provided on this project)
- Provide integration of all equipment to result in an operational system
- Provide documentation for equipment and software
- Perform acceptance testing in conjunction with the City of Gulf Shores
- Provide training to the City of Gulf Shores staff

### 2.0 SPECIFICATIONS FOR EQUIPMENT AND INSTALLATION TO BE PROVIDED BY THE INTEGRATOR

#### 2.1 Econolite CENTRACS Software Modules

Provide and install Econolite Adaptive Module for CENTRACS software use by the City of Gulf Shores. The software shall include the optional CENTRACS Advanced CCTV module to operate the HD PTZ cameras being installed on the project.

The software provided on this project shall be fully functional with the existing Econolite CENTRACS software without installation of any hardware other than the hardware required in these specifications.

Required training shall be provided for the CENTRACS adaptive module and the Advanced CCTV module.

Provide and install Adaptive intersection licenses (datakey) and mandatory integration for each of the fifteen (15) intersections included in this project.

Price quote shall include furnishing and installing the following pay items:

- 2.1.1 CENTRACS Adaptive Module
- 2.1.2 CENTRACS Advanced CCTV Module
- 2.1.3 CENTRACS Adaptive Intersection Licenses (DataKey) and integration

#### 2.2 Radar Detection Equipment

Provide and install radar detection units/processors to allow for local detection and adaptive sensors as shown in the plans. The integrator shall program the radar detection system with local detection and system sensors as shown in the plans. The radar unit/processor shall be an Econolite Advance + Radar Detector (or approved equivalent). The unit must be able to distinguish separation in speed, range, and angle of vehicles at all detection zones The complete radar unit/processor system shall use one (1) Ethernet port on the Ethernet field switch.

Price quote shall include furnishing and installing the following pay items:

- 2.2.1 Radar Detection Unit/Processor
- 2.2.2 RS485 Cable

#### 2.3 Existing Controller Cabinet Modifications

Modify the existing traffic signal installations at the intersections of State Route 59 at Clubhouse Drive, 12th Avenue, SR 180, 20th Ave, and CR 8 to allow

existing Econolite video detection to be used for adaptive signal operation. The integrator shall program the video detection system with system sensors as shown in the plans and make all necessary cabinet modifications required for proper operation of the system sensors.

Price quote shall include furnishing and installing the following pay items:

- 2.3 Video Detection Cabinet Modifications

#### 2.4 HD PTZ Cameras

Provide and install CCTV video surveillance cameras as shown on the plans. The cameras shall be capable of PTZ operation remotely controlled and viewed through the CENTRACS software. The camera shall have a pressurized dome or enclosure. The camera shall be capable of a 30x optical zoom and have an image resolution of 1920 x 1080 at 30 frames per second. The camera will be connected using CAT 6 Ethernet cable which carries data and power for the unit. The camera shall be an MOOG EXO EXPF7C2-3, or approved equivalent.

Price quote shall include furnishing and installing the following pay items:

- 2.4.1 HD PTZ Camera
- 2.4.2 CAT 6 ethernet cable

#### 2.5 On-Site Support

In addition to the required on-site time required in this document for the installation and integration of all hardware and software components, the integrator may also be required by the City to perform additional work tasks not covered in the scope of work. These work tasks could include (but are not limited to):

- Configuring existing City-owned computer work stations for access to the CENTRACS system and video surveillance cameras provided on this project
- Additional training beyond the training required in the scope of work

For the purposes of providing a price quote for this project, the integrator shall provide a daily rate covering all labor and expenses. The integrator shall assume that four (4) days of on-site support in addition to the on-site time required in the scope of work will be required during the course of the project. Labor for all on-site support shall include travel time to and from the City of Gulf Shores.

Price quote shall include furnishing following pay items:

- 2.5 On-Site Support

### 3.0 SUBSIDIARY OBLIGATIONS

It is a subsidiary obligation to provide all standard wiring, cables, connections, power supplies, power over Ethernet (POE) devices, surge protection, mounting hardware, card racks, firmware, and software as required by the various devices included in the contract to furnish a complete and operating system.

Removal of equipment as identified in this document is a subsidiary obligation of the project.

The following work tasks shall be provided by the integrator as a subsidiary obligation on the project:

- Integration  
  
The integrator shall be responsible for all on-site system integration, to include configuring the system using the City of Gulf Shores supplied virtual server. During on-site integration, the integrator will be responsible for developing intersection graphics and will integrate all devices into the ATMS.
- Documentation  
  
The integrator shall provide the City of Gulf Shores with a project binder, CD, or USB drive containing easily-readable electronic files that includes product manuals for all integrator-provided materials. Electronic help files included with the system software is acceptable. All documentation will be

provided following system installation.

- Acceptance Testing

The integrator will perform the 1-day Acceptance Test in conjunction with City of Gulf Shores personnel. The Acceptance Test shall consist of an operational demonstration to the City of Gulf Shores of all major software components. Test documentation will be provided to the City of Gulf Shores for review prior to the testing. Upon successful completion of all project deliverables and the Acceptance Test, the integrator shall provide a project letter of acceptance to the City of Gulf Shores. This letter recognizes project closure and documents the date from which all warranties will take effect.

- Training

The integrator shall provide training in a single, two-day (2-day) class for up to ten (10) people at facilities provide by the City of Gulf Shores.

- System Support and Maintenance

Software corrections shall be furnished to the City of Gulf Shores at no additional cost during the warranty period. The integrator shall provide telephone and email support for the system during the warranty period at no additional cost. This support shall be available during normal business hours.

### 4.0 EQUIVALENT ITEMS

Should the integrator elect to submit a bid using equivalent items where allowed in these specifications, written specifications and/or cut sheets for the equivalent items must be provided to the City of Gulf Shores a minimum of fourteen (14) days prior to bid opening date and the integrator must have written approval from the City of Gulf Shores for the equivalent item(s).

### 5.0 INSTALLATION SCHEDULE

All work included in the contract shall be completed within 45 calendar days after notice to proceed. No incentive or disincentive provisions are included in the contract.

### 6.0 ETHERNET IP ADDRESS SCHEME

The integrator, shall, in conjunction with the City of Gulf Shores, develop an Ethernet IP addressing system for the equipment provided on the project. The integrator shall be responsible for programming IP addresses in all equipment provided on this project, whether by the integrator or the City of Gulf Shores.

### 7.0 WARRANTIES

In addition to any factory warranties, the integrator shall provide a one (1) year warranty from the date of system acceptance for all project deliverables.

### 8.0 TERMS OF PAYMENT

The integrator shall provide communication and coordination for all invoices as project work is completed. The following payment schedule shall be used for the project:

- Procurement - all hardware provided for the project will be 100% payable upon delivery of materials to the City of Gulf Shores.
- System installation and integration - 85% of the system price, less hardware shall be invoiced upon installation and integration of the system.
- Training - 10% of the system price, less hardware shall be invoiced upon completion of the training.
- Acceptance - 5% of the total system price shall be invoiced upon acceptance of the system.

All payments shall be made Net 30 days from receipt of the invoice by the City.

### 9.0 YEARLY MAINTENANCE FEES

The integrator shall disclose as part of their bid any yearly maintenance fees

associated with the equipment in the space provided on the bid form. It is understood that these fees are to be approximations and may vary from the quoted amount and may vary on a yearly basis.

### 10.0 BID BOND

Certified check or bid bond for 5% of bid (Maximum - \$10,000.00) made payable to the City of Gulf Shores must accompany each bid as evidence of good faith.

### 11.0 REJECTION OF BIDS

The right to reject any or all bids is reserved by the City of Gulf Shores.

### 12.0 AWARD OF BIDS

Bid shall be awarded to the lowest responsive, responsible bidder based on the GRAND TOTAL amount as shown on the proposal form. Bids which do not provide a unit price and extended price for all line items will be rejected. Bids which contain exceptions or alternative proposals that have not been approved by the City of Gulf Shores will be rejected. Bids which do not have a disclosure of yearly maintenance fees will be rejected. The City of Gulf Shores shall check each proposal form for mathematical errors. Award of the bid shall be based on any corrections to mathematical errors.

### 13.0 QUESTIONS REGARDING BID DOCUMENTS

Any questions regarding this bid document shall be directed in writing (mail, fax, or email) to the project engineer. Questions are due no later than a minimum of fourteen (14) days prior to bid opening date. Any questions received after that time will be returned unanswered.

### 14.0 CONTACTS

Project Engineer:	SKIPPER CONSULTING, INC. Clark B. Bailey, P.E. 3644 Vann Road, Suite 100 Birmingham, Alabama 35235 (205) 655-8855 Fax (205) 655-8825 Cell (334) 524-0875 clark@skipperinc.com
City of Gulf Shores:	PUBLIC WORKS DEPARTMENT Mark Acreman, P.E. 1905 West First Street Gulf Shores, Alabama 36542 (251) 968-1155 Fax (251) 968-1181 Cell (251) 269-7350 macreman@gulfshoresal.gov  MAINTENANCE DIVISION Mike Collins 160 West 36th Avenue Gulf Shores, Alabama 36542 (251) 968-1447 Fax (251) 968-1450 Cell (251) 747-3221 mcollins@gulfshoresal.gov  INFORMATION SYSTEMS Brad Belden 1905 West First Street Gulf Shores, Alabama 36542 (251) 968-1165 Fax (251) 968-1470 bbelden@gulfshoresal.gov



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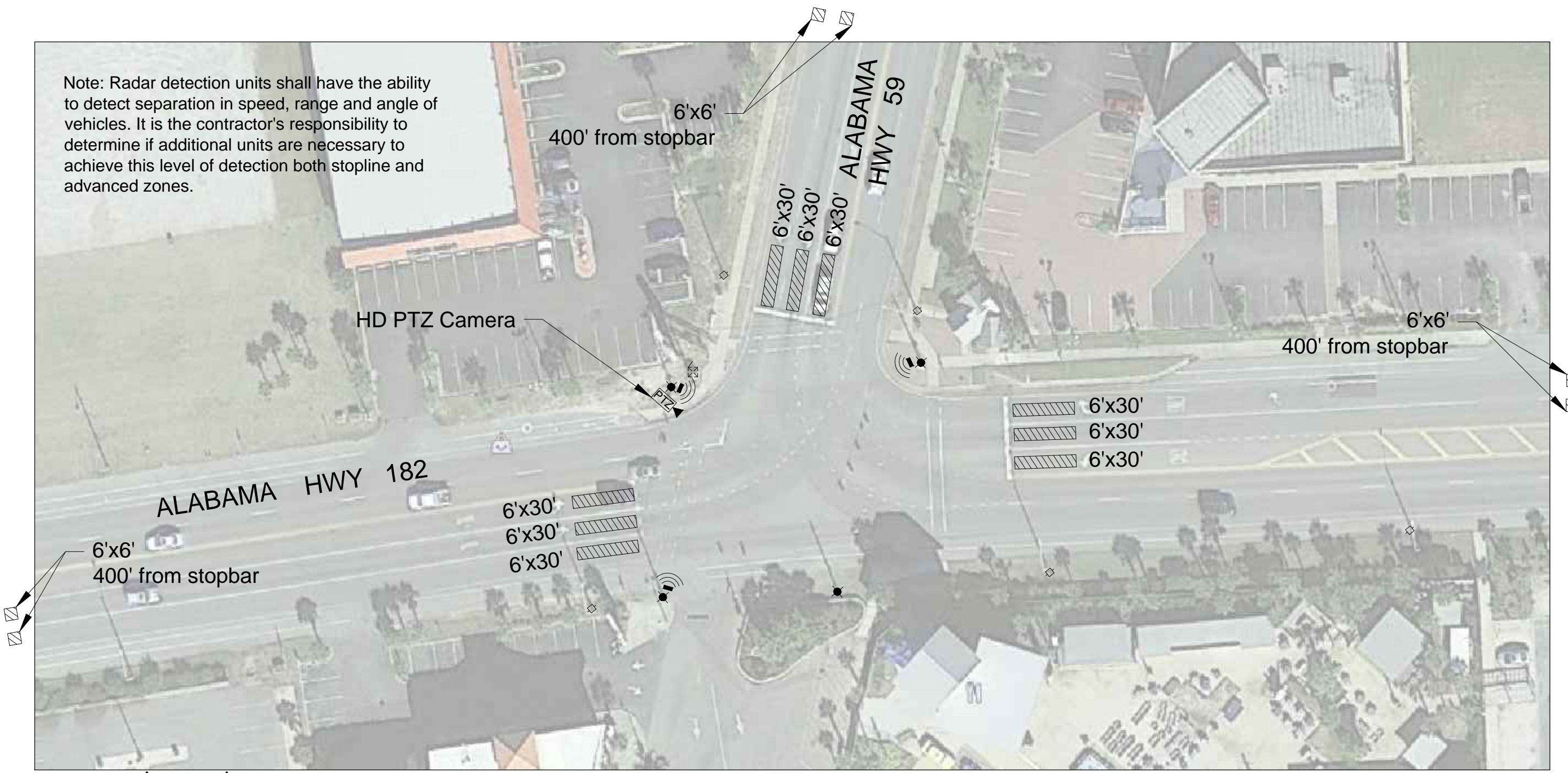
Project Specifications  
AL 59 at AL 182  
AL 59 Adaptive System  
Gulf Shores, Alabama



# Alabama Hwy 59 Adaptive Signal System

## AL 59 at AL 182

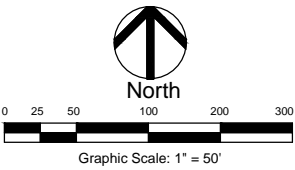
Note: Radar detection units shall have the ability to detect separation in speed, range and angle of vehicles. It is the contractor's responsibility to determine if additional units are necessary to achieve this level of detection both stopline and advanced zones.



### Legend

- Signal Pole
- Signal Cabinet
- Radar Unit
- Detection Zone
- PTZ Camera

Quantities		
Qty	Unit	Description
3	EA	Radar Detection Unit and mounting hardware
1	EA	Radar Interface Module
500	LF	RS485 Cable
1	EA	PTZ Camera, and mounting hardware
200	FT	Cat 6 Ethernet Cable (PTZ camera)



Sheet 4

AL 59 at AL 182

AL 59 Adaptive System

Gulf Shores, Alabama

02.13.2015

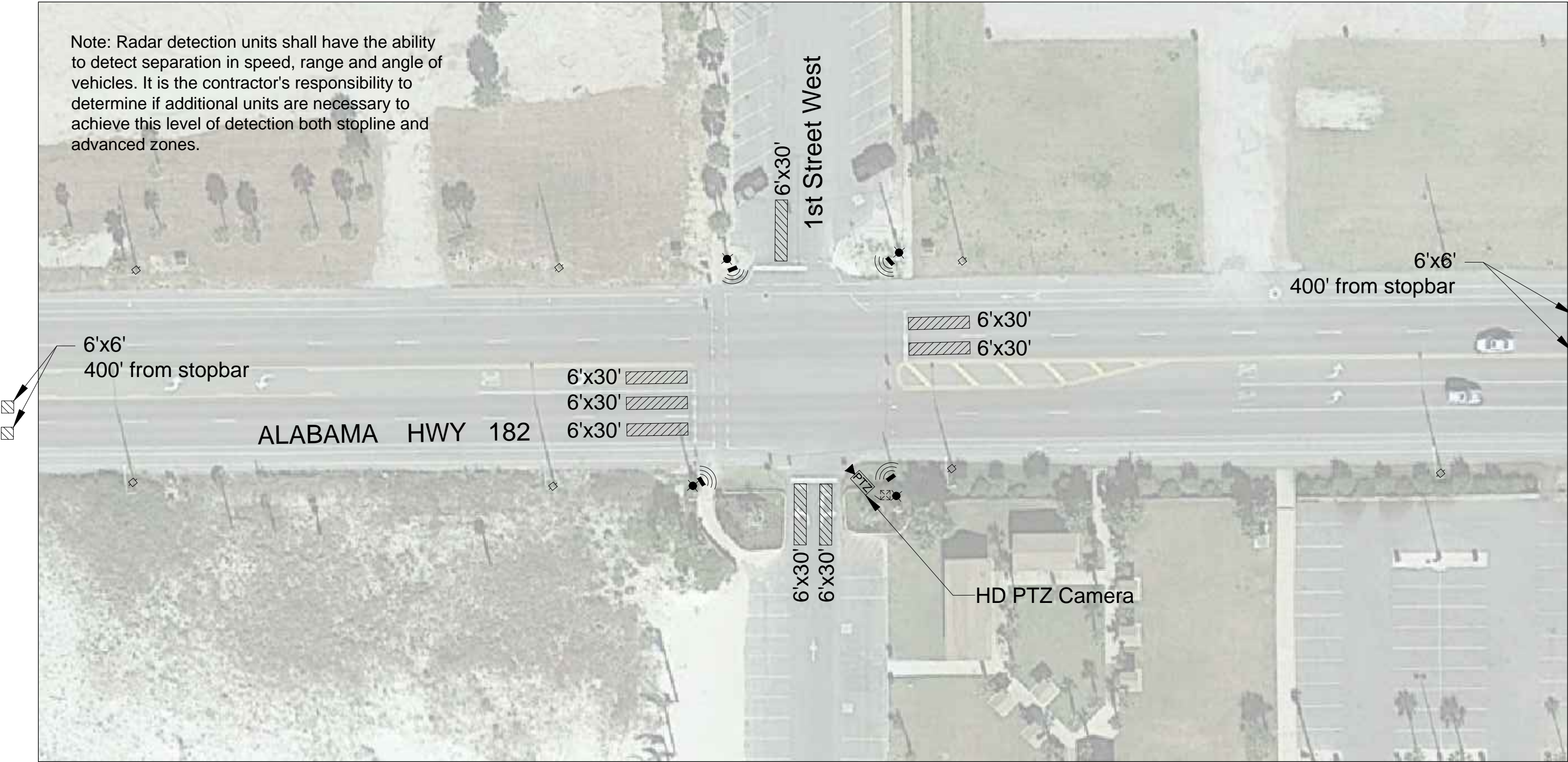
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# Alabama Hwy 59 Adaptive Signal System

## AL 59 at 1st Street West

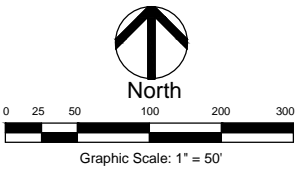
Note: Radar detection units shall have the ability to detect separation in speed, range and angle of vehicles. It is the contractor's responsibility to determine if additional units are necessary to achieve this level of detection both stopline and advanced zones.



### Legend

- Signal Pole
- Signal Cabinet
- Radar Unit
- Detection Zone
- PTZ Camera

Quantities		
Qty	Unit	Description
4	EA	Radar Detection Unit and mounting hardware
1	EA	Radar Interface Module
800	LF	RS485 Cable
1	EA	PTZ Camera, and mounting hardware
200	FT	Cat 6 Ethernet Cable (PTZ camera)



**SKIPPER**  
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Sheet 5  
AL 182 at 1st St West  
AL 59 Adaptive System  
Gulf Shores, Alabama

02.13.2015

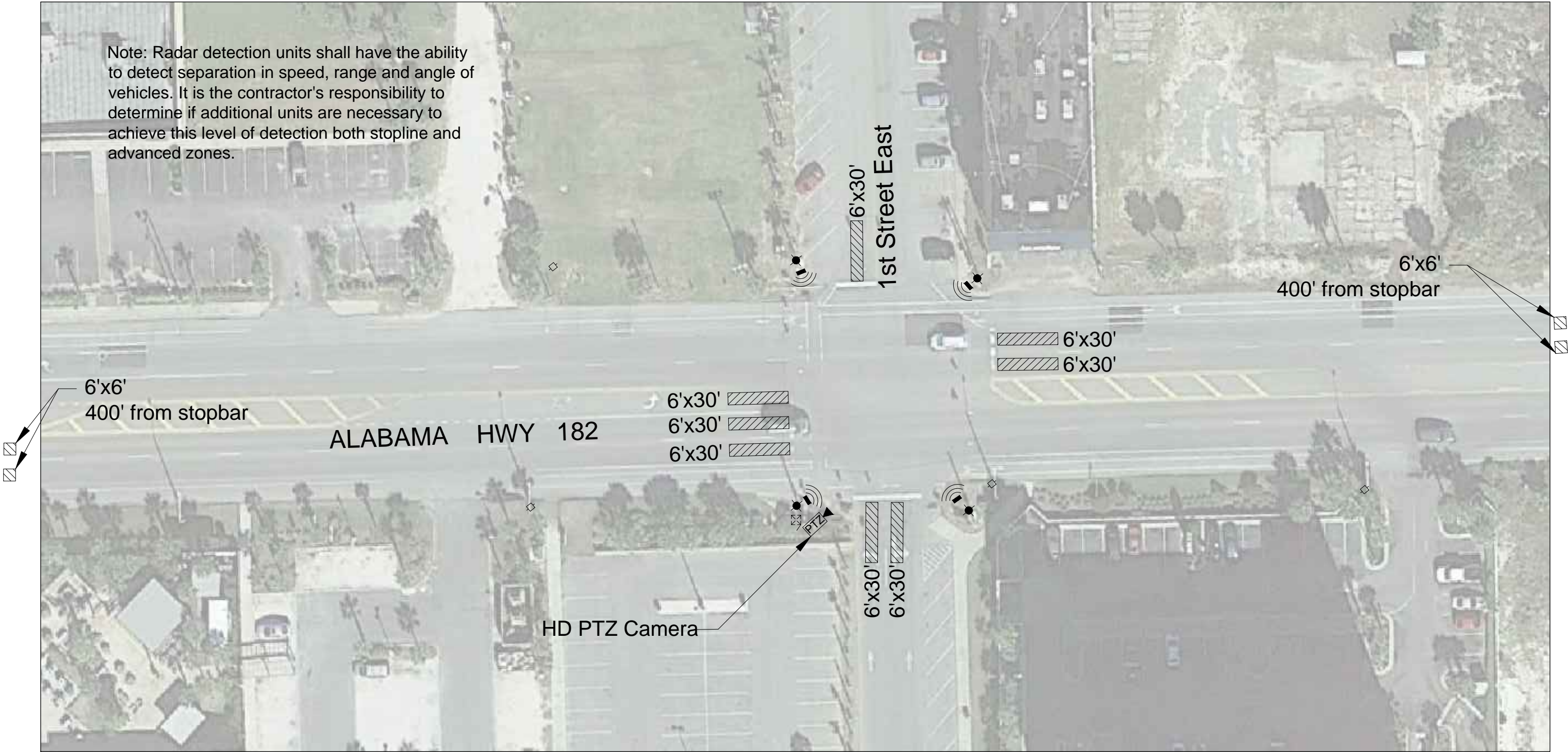
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# Alabama Hwy 59 Adaptive Signal System

## AL 59 at 1st Street East

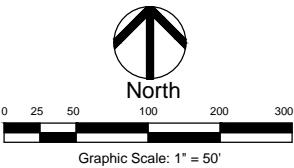
Note: Radar detection units shall have the ability to detect separation in speed, range and angle of vehicles. It is the contractor's responsibility to determine if additional units are necessary to achieve this level of detection both stopline and advanced zones.



### Legend

- Signal Pole
- Signal Cabinet
- Radar Unit
- Detection Zone
- PTZ Camera

Quantities		
Qty	Unit	Description
4	EA	Radar Detection Unit and mounting hardware
1	EA	Radar Interface Module
800	LF	RS485 Cable
1	EA	PTZ Camera, and mounting hardware
100	FT	Cat 6 Ethernet Cable (PTZ camera)



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Sheet 6  
AL 182 at 1st St East  
AL 59 Adaptive System  
Gulf Shores, Alabama

02.13.2015

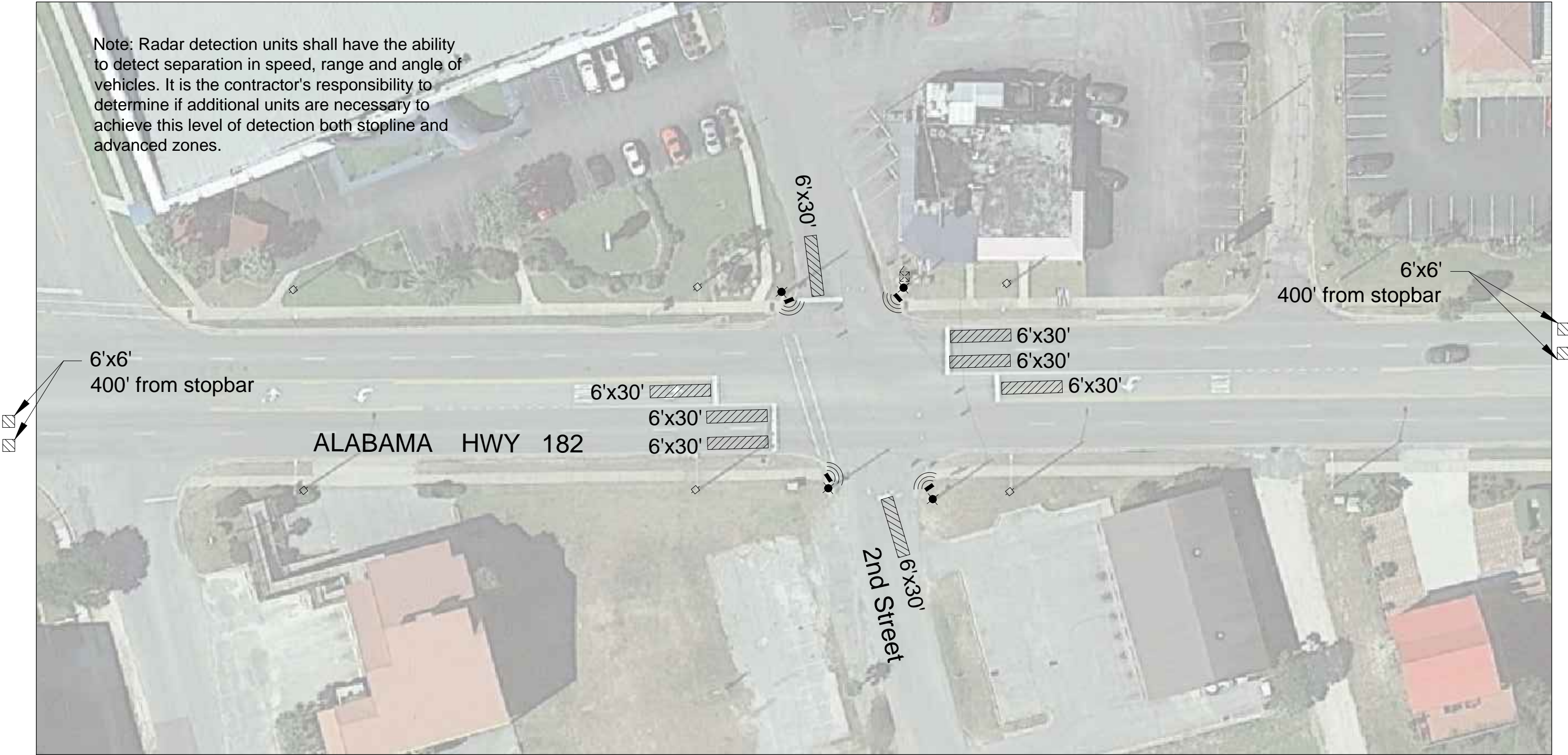
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# Alabama Hwy 59 Adaptive Signal System

## AL 59 at 2nd Street

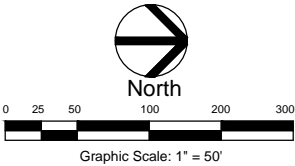
Note: Radar detection units shall have the ability to detect separation in speed, range and angle of vehicles. It is the contractor's responsibility to determine if additional units are necessary to achieve this level of detection both stopline and advanced zones.



### Legend

- Signal Pole
- Signal Cabinet
- Radar Unit
- Detection Zone
- PTZ Camera

Quantities		
Qty	Unit	Description
4	EA	Radar Detection Unit and mounting hardware
1	EA	Radar Interface Module
800	LF	RS485 Cable



**SKIPPER**  
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Sheet 7  
AL 59 at 2nd Street  
AL 59 Adaptive System  
Gulf Shores, Alabama

02.13.2015

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# Alabama Hwy 59 Adaptive Signal System

## AL 59 at Windmill Ridge Road

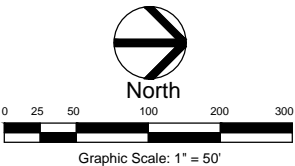
Note: Radar detection units shall have the ability to detect separation in speed, range and angle of vehicles. It is the contractor's responsibility to determine if additional units are necessary to achieve this level of detection both stopline and advanced zones.



### Legend

- Signal Pole
- Signal Cabinet
- Radar Unit
- Detection Zone
- PTZ Camera

Quantities		
Qty	Unit	Description
3	EA	Radar Detection Unit and mounting hardware
1	EA	Radar Interface Module
500	LF	RS485 Cable
1	EA	PTZ Camera, and mounting hardware
100	FT	Cat 6 Ethernet Cable (PTZ camera)



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Sheet 8  
AL 59 at Windmill Ridge Rd  
AL 59 Adaptive System  
Gulf Shores, Alabama

02.13.2015

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# Alabama Hwy 59 Adaptive Signal System

## AL 59 at 8th Avenue / Waterville

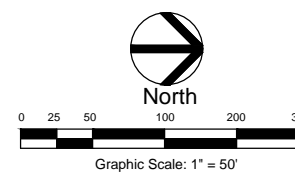
Note: Radar detection units shall have the ability to detect separation in speed, range and angle of vehicles. It is the contractor's responsibility to determine if additional units are necessary to achieve this level of detection both stopline and advanced zones.



### Legend

- |   |                |
|---|----------------|
|  | Signal Pole    |
|  | Signal Cabinet |
|  | Radar Unit     |
|  | Detection Zone |
|  | PTZ Camera     |

Quantities		
Qty	Unit	Description
4	EA	Radar Detection Unit and mounting hardware
1	EA	Radar Interface Module
800	LF	RS485 Cable



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## Sheet 9

### AL 59 at 8th Ave. / Waterville

AL 59 Adaptive System  
Gulf Shores, Alabama

02.13.2015

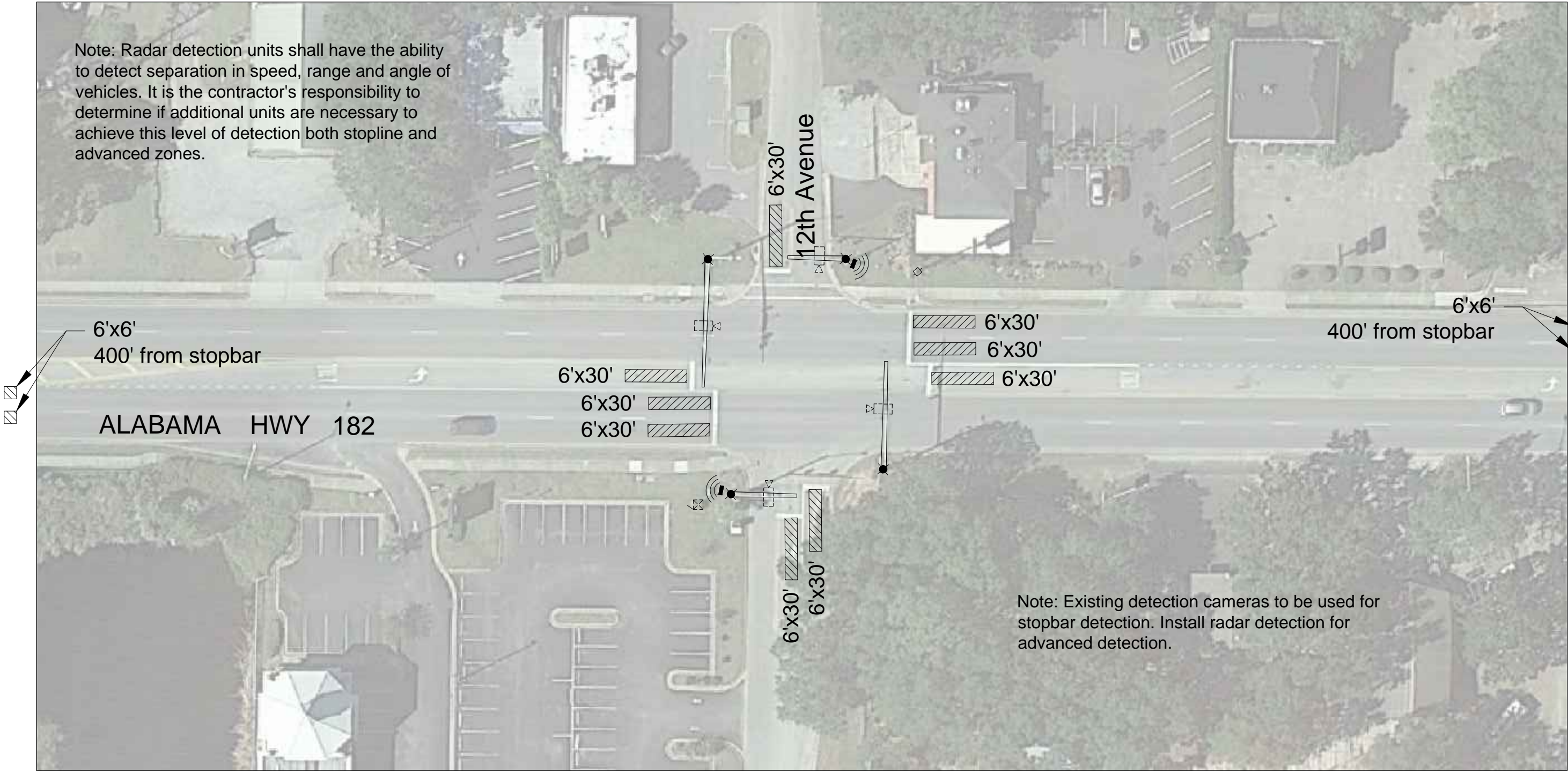
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# Alabama Hwy 59 Adaptive Signal System

## AL 59 at 12th Avenue / Zoo

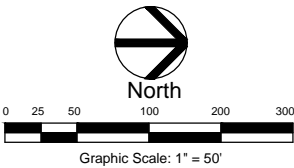
Note: Radar detection units shall have the ability to detect separation in speed, range and angle of vehicles. It is the contractor's responsibility to determine if additional units are necessary to achieve this level of detection both stopline and advanced zones.



### Legend

- Signal Pole
- Signal Cabinet
- Radar Unit
- Detection Zone
- PTZ Camera

Quantities		
Qty	Unit	Description
2	EA	Radar Detection Unit and mounting hardware
1	EA	Radar Interface Module
500	LF	RS485 Cable



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Sheet 10  
AL 59 at 12th Ave. / Zoo  
AL 59 Adaptive System  
Gulf Shores, Alabama

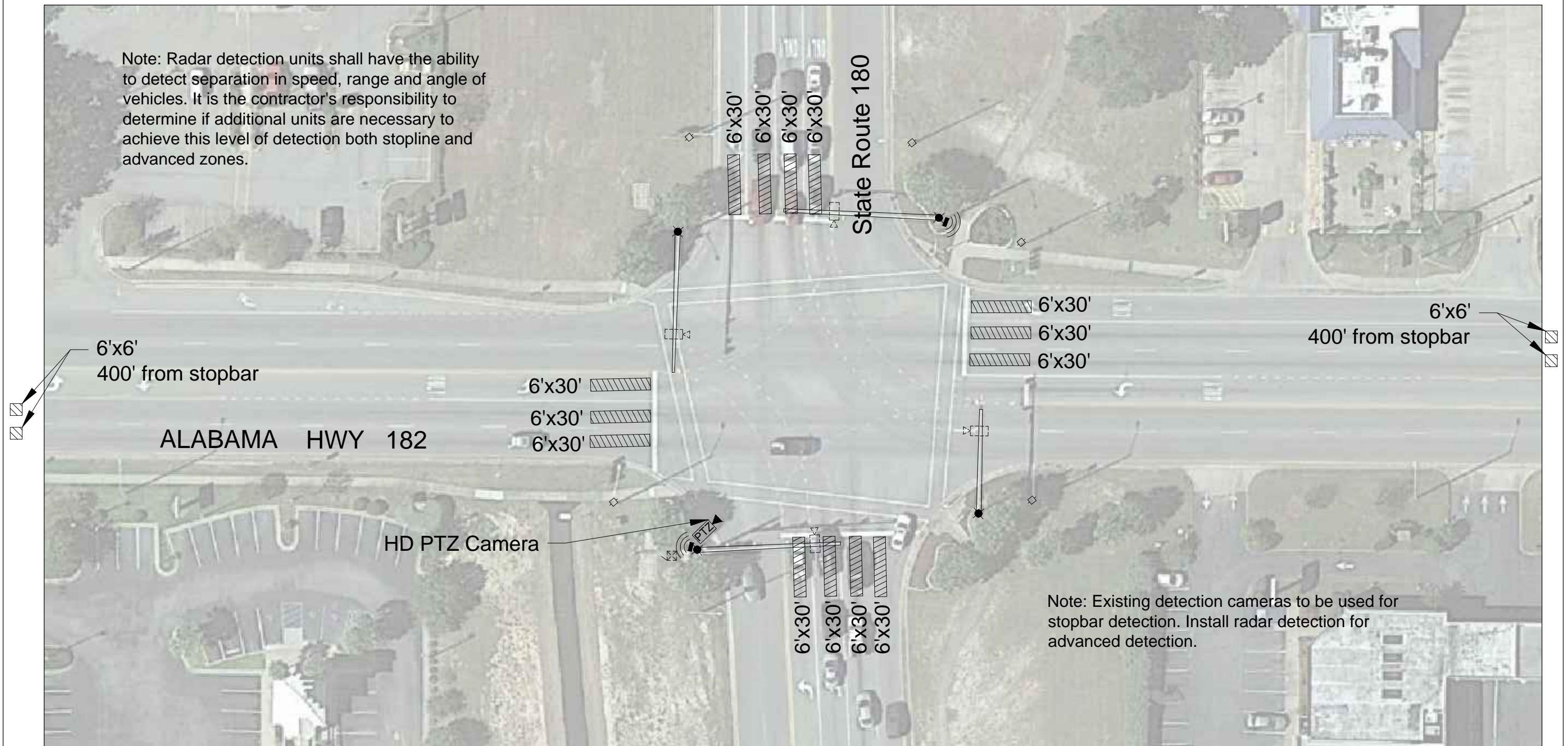
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# Alabama Hwy 59 Adaptive Signal System

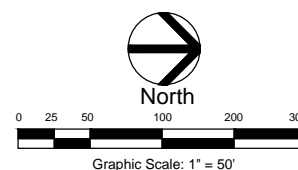
## AL 59 at AL 180 / Fort Morgan Road



### Legend

- Signal Pole
- Signal Cabinet
- Radar Unit
- Detection Zone
- PTZ Camera

Quantities		
Qty	Unit	Description
2	EA	Radar Detection Unit and mounting hardware
1	EA	Radar Interface Module
500	LF	RS485 Cable
1	EA	PTZ Camera, and mounting hardware
200	FT	Cat 6 Ethernet Cable (PTZ camera)



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# Sheet 11

## AL 59 at SR 180 / Ft. Morgan

### AL 59 Adaptive System

### Gulf Shores, Alabama

02.13.2015

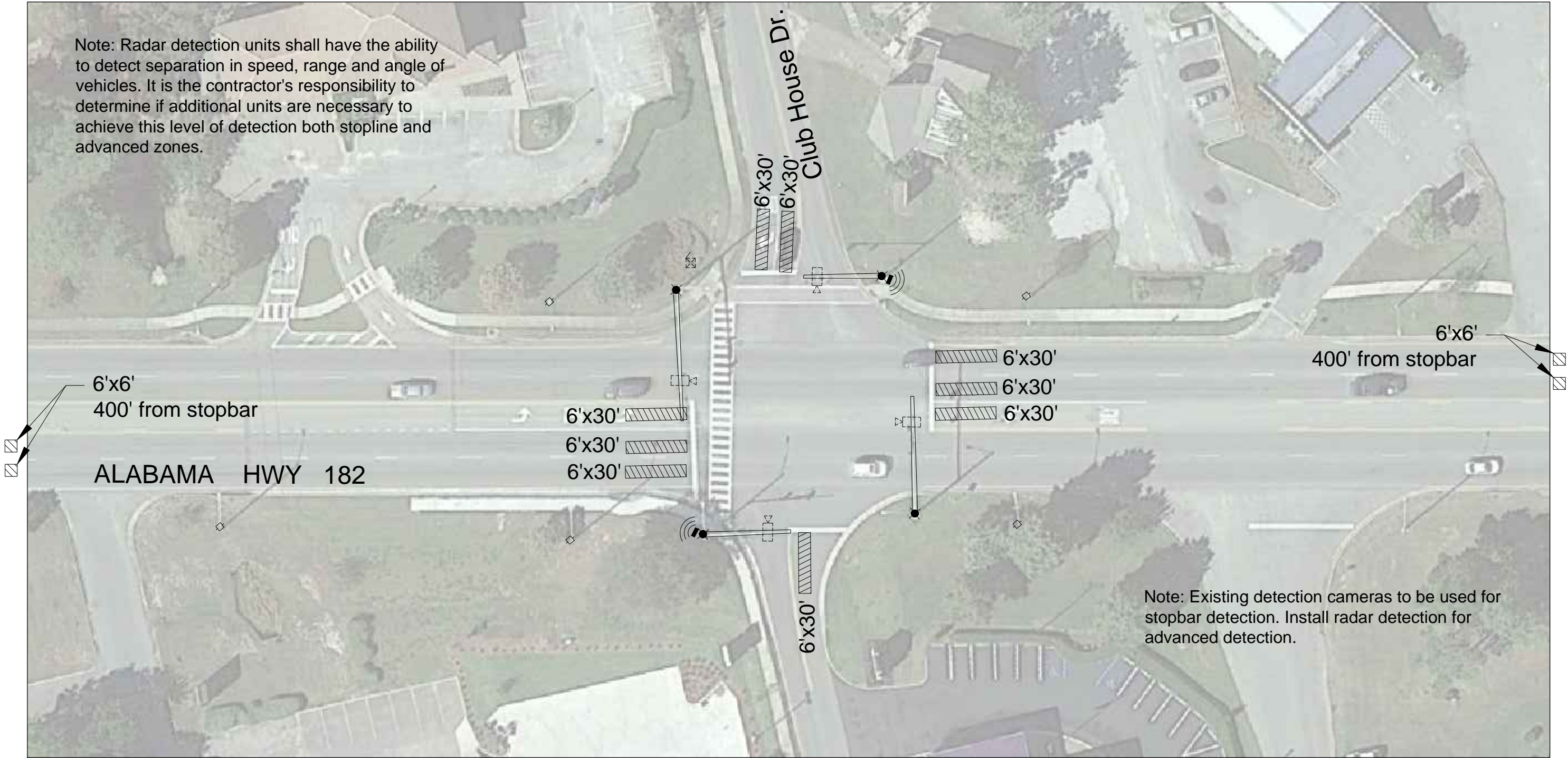
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# Alabama Hwy 59 Adaptive Signal System

## AL 59 at Clubhouse Drive

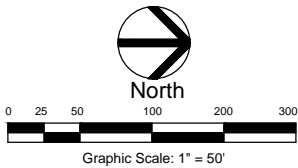
Note: Radar detection units shall have the ability to detect separation in speed, range and angle of vehicles. It is the contractor's responsibility to determine if additional units are necessary to achieve this level of detection both stopline and advanced zones.



### Legend

- Signal Pole
- Signal Cabinet
- Radar Unit
- Detection Zone
- PTZ Camera

Quantities		
Qty	Unit	Description
2	EA	Radar Detection Unit and mounting hardware
1	EA	Radar Interface Module
500	LF	RS485 Cable



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Sheet 12  
AL 59 at Clubhouse Drive  
AL 59 Adaptive System  
Gulf Shores, Alabama

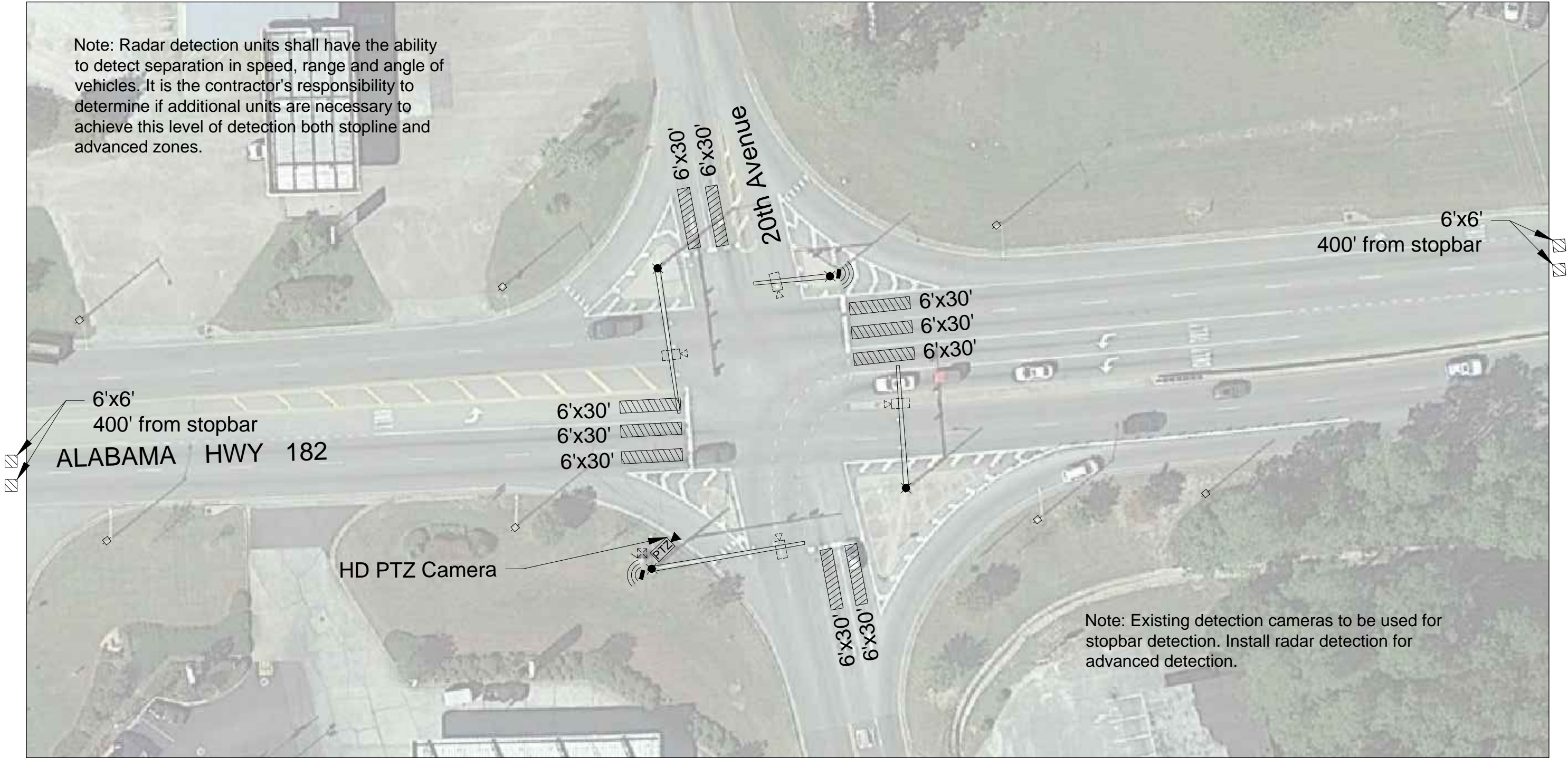
02.13.2015

1245.022



# Alabama Hwy 59 Adaptive Signal System

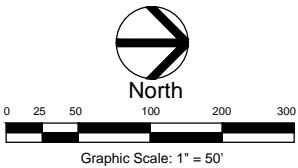
## AL 59 at 20th Avenue



### Legend

- Signal Pole
- Signal Cabinet
- Radar Unit
- Detection Zone
- PTZ Camera

Quantities			
Qty	Unit	Description	
2	EA	Radar Detection Unit and mounting hardware	
1	EA	Radar Interface Module	
500	LF	RS485 Cable	
1	EA	PTZ Camera, and mounting hardware	
200	FT	Cat 6 Ethernet Cable (PTZ camera)	



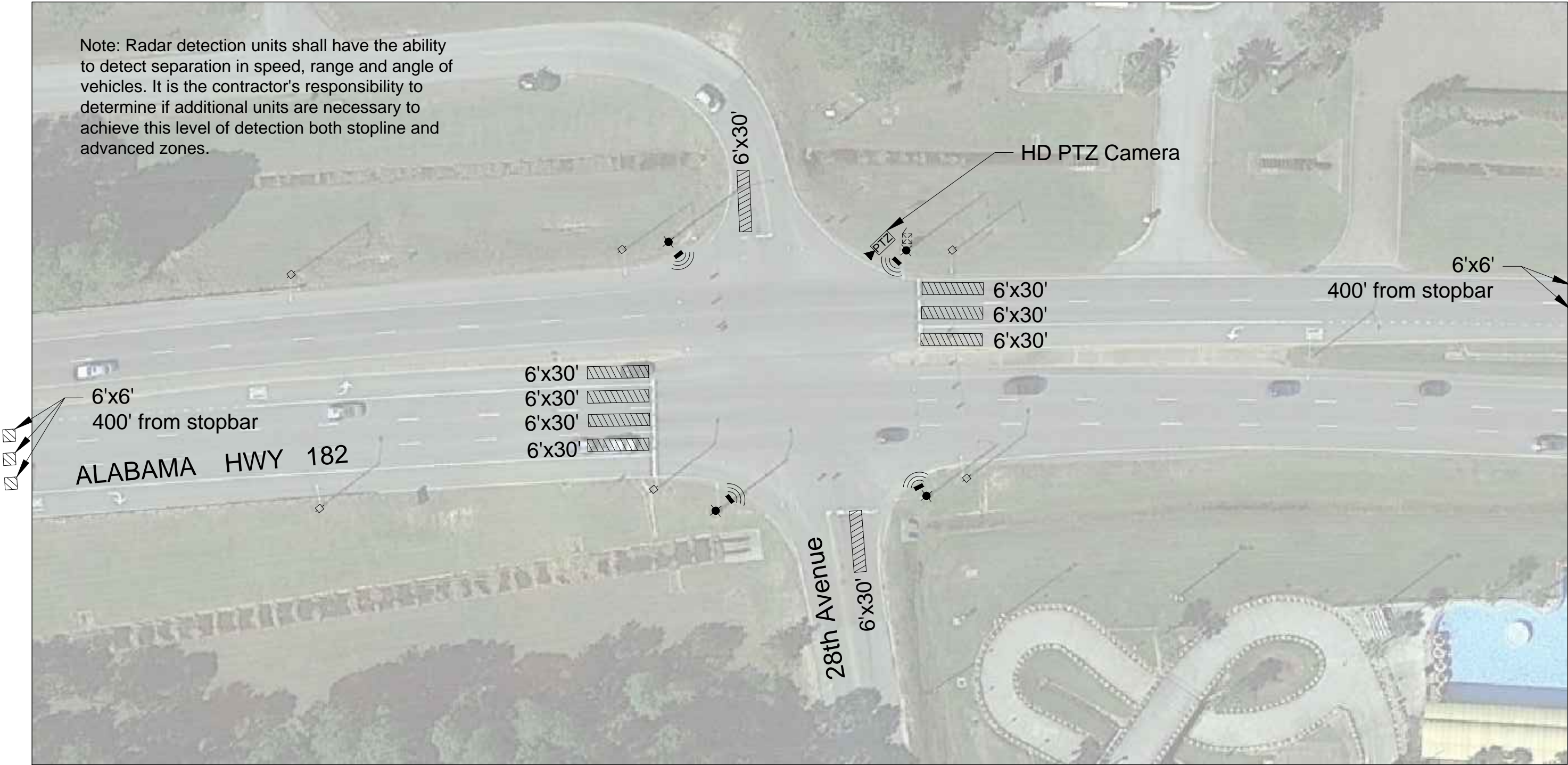
**SKIPPER**  
CONSULTING INC



# Alabama Hwy 59 Adaptive Signal System

## AL 59 at 28th Avenue / CR 4 W

Note: Radar detection units shall have the ability to detect separation in speed, range and angle of vehicles. It is the contractor's responsibility to determine if additional units are necessary to achieve this level of detection both stopline and advanced zones.

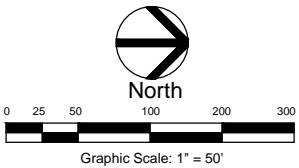


### Legend

- Signal Pole
- Signal Cabinet
- Radar Unit
- Detection Zone
- PTZ Camera

### Quantities

Qty	Unit	Description
4	EA	Radar Detection Unit and mounting hardware
1	EA	Radar Interface Module
800	LF	RS485 Cable
1	EA	PTZ Camera, and mounting hardware
200	FT	Cat 6 Ethernet Cable (PTZ camera)



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Sheet 14  
AL 59 at 28th Ave / CR 4 W  
AL 59 Adaptive System  
Gulf Shores, Alabama

02.13.2015

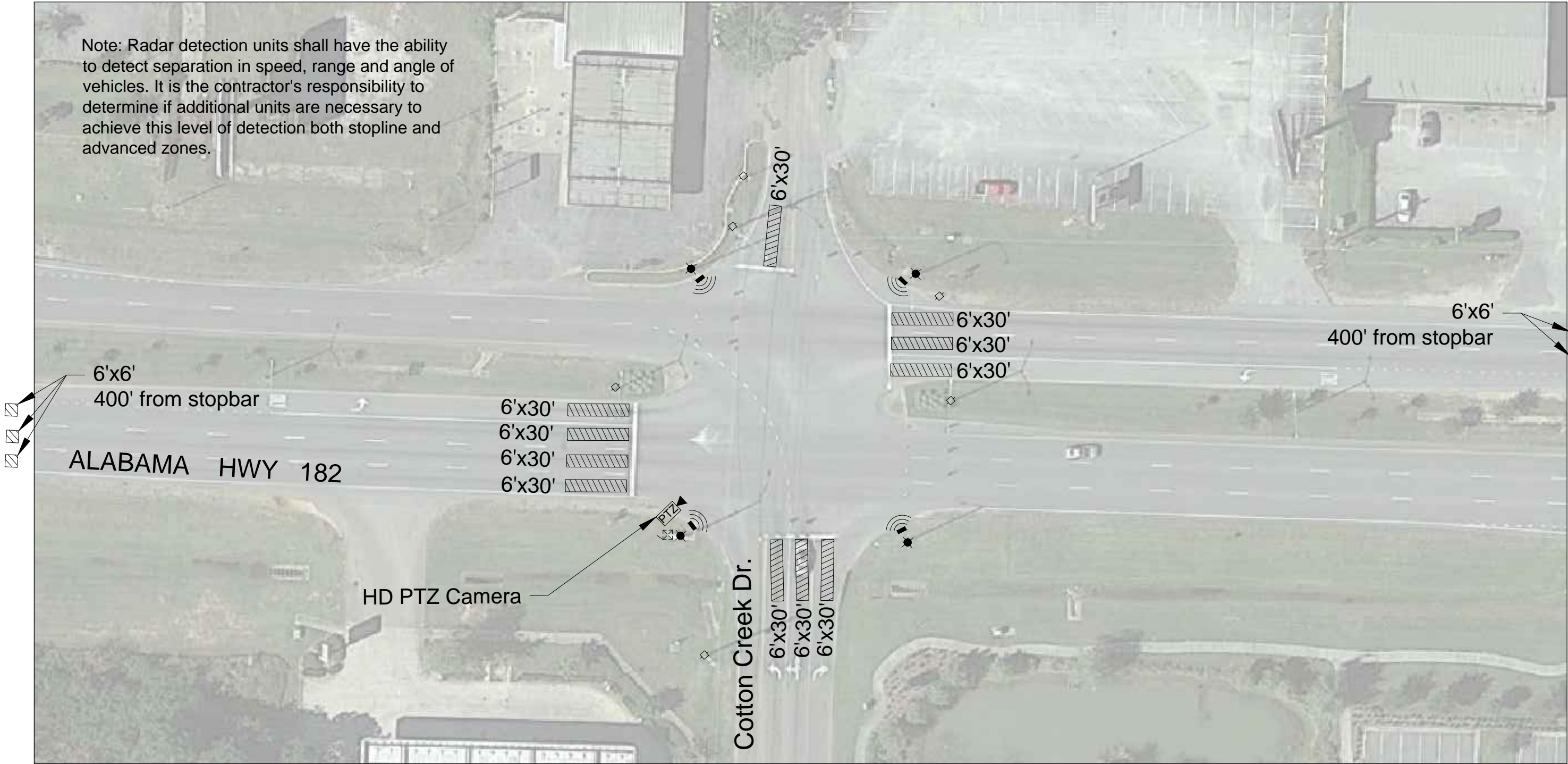
1245.022



# Alabama Hwy 59 Adaptive Signal System

## AL 59 at Cotton Creek Drive

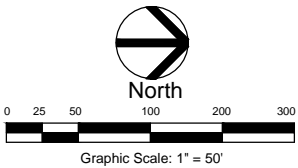
Note: Radar detection units shall have the ability to detect separation in speed, range and angle of vehicles. It is the contractor's responsibility to determine if additional units are necessary to achieve this level of detection both stopline and advanced zones.



### Legend

- Signal Pole
- Signal Cabinet
- Radar Unit
- Detection Zone
- PTZ Camera

Quantities		
Qty	Unit	Description
4	EA	Radar Detection Unit and mounting hardware
1	EA	Radar Interface Module
800	LF	RS485 Cable
1	EA	PTZ Camera, and mounting hardware
200	FT	Cat 6 Ethernet Cable (PTZ camera)



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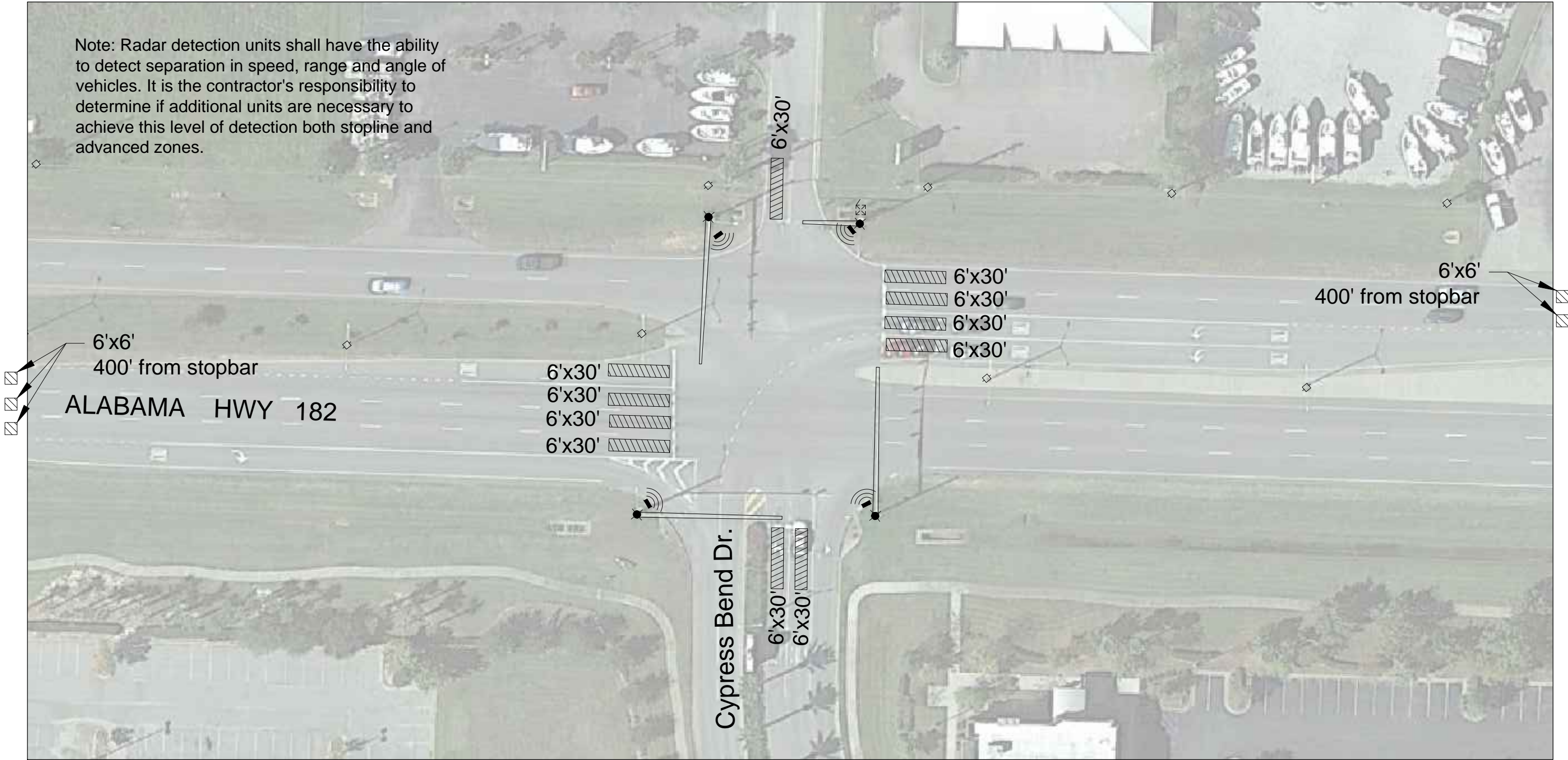
Sheet 15  
AL 59 at Cotton Creek Dr  
AL 59 Adaptive System  
Gulf Shores, Alabama

02.13.2015

1245.022

Alabama Hwy 59 Adaptive Signal System  
AL 59 at Cypress Bend Drive

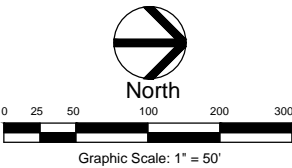
Note: Radar detection units shall have the ability to detect separation in speed, range and angle of vehicles. It is the contractor's responsibility to determine if additional units are necessary to achieve this level of detection both stopline and advanced zones.



Legend

- Signal Pole
- Signal Cabinet
- Radar Unit
- Detection Zone
- PTZ Camera

Quantities		
Qty	Unit	Description
4	EA	Radar Detection Unit and mounting hardware
1	EA	Radar Interface Module
800	LF	RS485 Cable



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AL 59 at Cypress Bend Drive  
AL 59 Adaptive System  
Gulf Shores, Alabama

02.13.2015

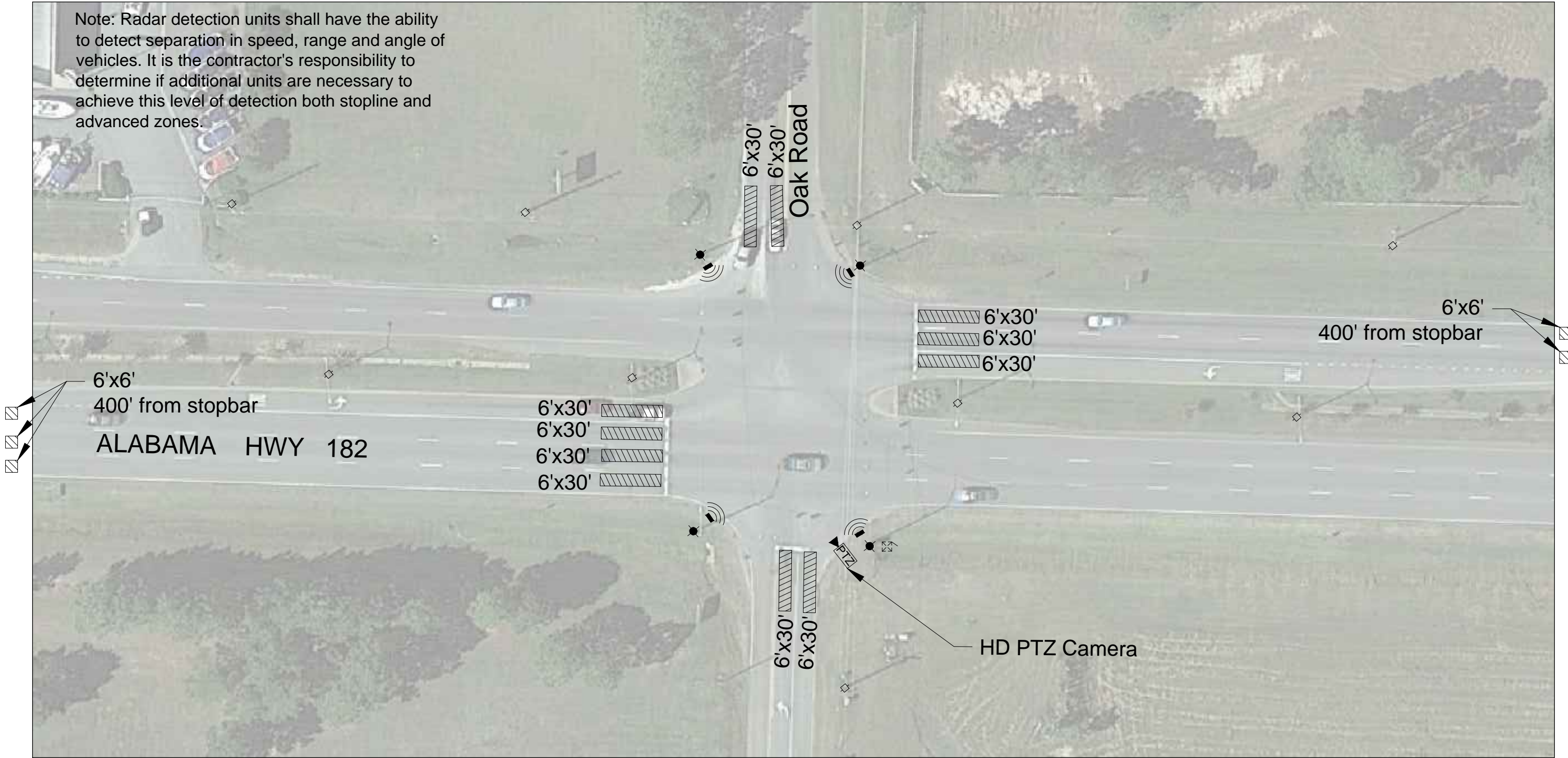
1245.022



# Alabama Hwy 59 Adaptive Signal System

## AL 59 at Oak Road CR 6

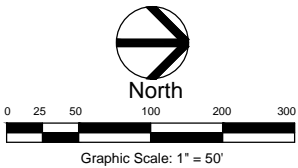
Note: Radar detection units shall have the ability to detect separation in speed, range and angle of vehicles. It is the contractor's responsibility to determine if additional units are necessary to achieve this level of detection both stopline and advanced zones.



### Legend

- Signal Pole
- Signal Cabinet
- Radar Unit
- Detection Zone
- PTZ Camera

Quantities		
Qty	Unit	Description
4	EA	Radar Detection Unit and mounting hardware
1	EA	Radar Interface Module
800	LF	RS485 Cable
1	EA	PTZ Camera, and mounting hardware
200	FT	Cat 6 Ethernet Cable (PTZ camera)



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Sheet 17  
AL 59 at Oak Road CR 6  
AL 59 Adaptive System  
Gulf Shores, Alabama

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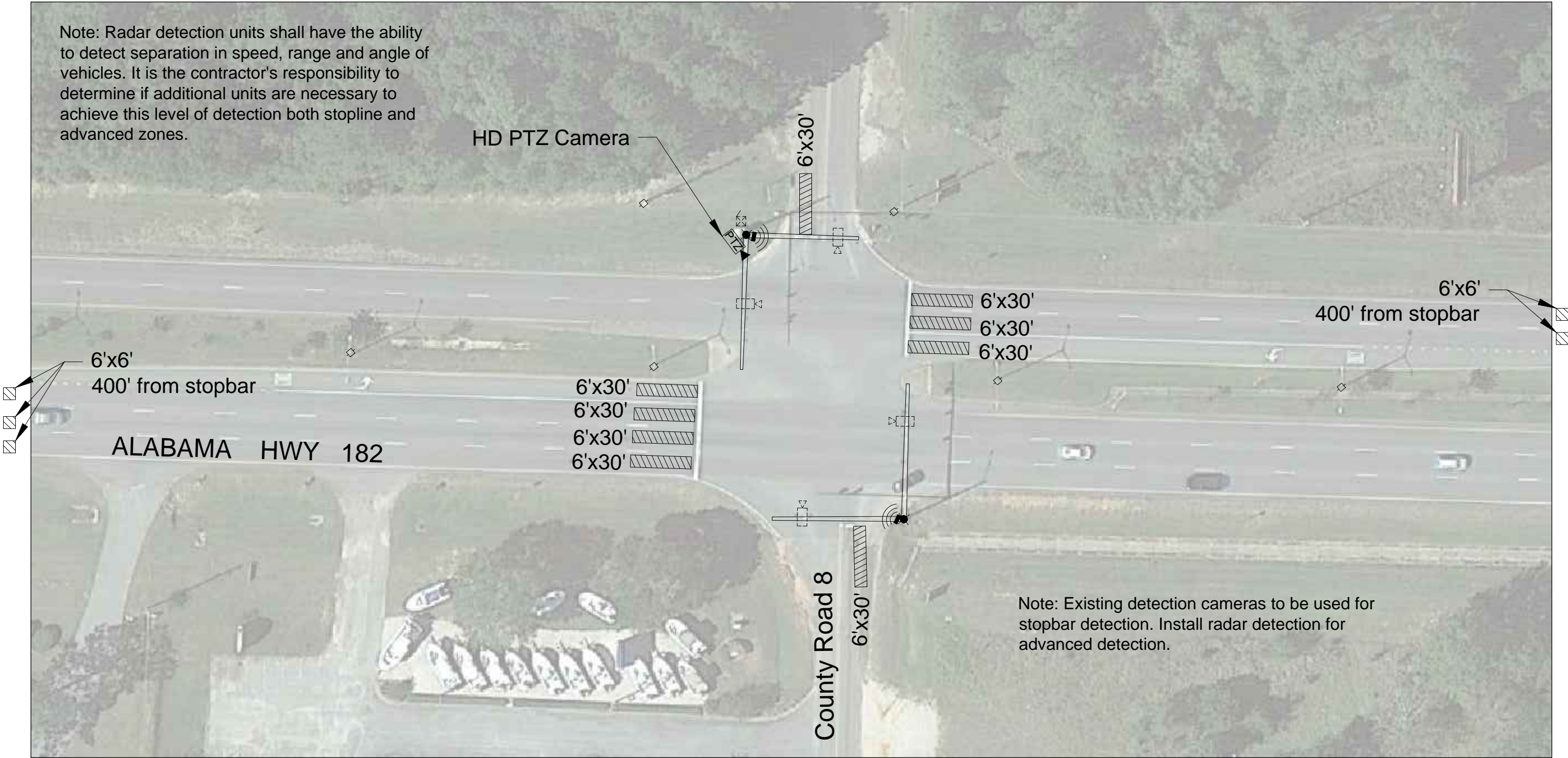
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# Alabama Hwy 59 Adaptive Signal System

## AL 59 at County Road 8

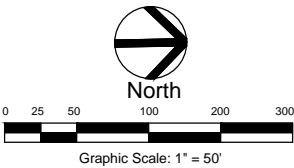
Note: Radar detection units shall have the ability to detect separation in speed, range and angle of vehicles. It is the contractor's responsibility to determine if additional units are necessary to achieve this level of detection both stopline and advanced zones.



### Legend

- Signal Pole
- Signal Cabinet
- Radar Unit
- Detection Zone
- PTZ Camera

Quantities			
Qty	Unit	Description	
2	EA	Radar Detection Unit and mounting hardware	
1	EA	Radar Interface Module	
500	LF	RS485 Cable	
1	EA	PTZ Camera, and mounting hardware	
200	FT	Cat 6 Ethernet Cable (PTZ camera)	



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Sheet 18  
AL 59 at CR 8  
AL 59 Adaptive System  
Gulf Shores, Alabama

02.13.2015

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